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ABSTRACT

This document describes the contributions of African peoples to the science of mathematics. The development of a number system is seen as related to need. Names of numbers, time reckoning, gesture counting, and counting materials are examined. Mystical beliefs about numbers and special meanings in pattern are presented. Reproductions of patterns, both numerical and geometrical, are discussed in terms of decorative patterns, textiles, art objects, architecture, functional devices and games. The twenty five chapters of the book are organized into eight sections. These sections and chapters include: Section 1: The Background, (1) "African Mathematics?"; and (2) "Historical Background." Section 2: Numbers--Words, Gestures, Significance, (3) "Constructions of Numeration Systems"; (4) "How Africans Count"; and (5) "Taboos and Mysticism." Section 3, Numbers in Daily Life, (6) "The African Concept of Time"; (7) "Numbers and Money"; (8) "Those Familiar Weights and Measures!"; and (9) "Record-Keeping: Sticks and Strings." Section 4: Mathematical Recreations, (10) "Games to Grow On"; (11) "The Game Played by Kings and Cowherds--And Presidents, Too!"; and (12) "Magic Squares." Section 5: Pattern and Shape, (13) "Geometric Form in Architecture"; (14) "Part 1: Geometric Form and Pattern in Art" and "Part 2: Geometric Symmetries in African Art, by D. W. Crowe, with Original Drawings." Section 6: Regional Study: Southwest Nigeria, (15) "History of the Yoruba States and Benin"; (16) "Systems of Numeration"; (17) "Significant Numbers"; (18) "Time-Reckoning"; and (19) "Markets and Currency." Section 7: Regional Study: East Africa, (20) "History of East Africa"; (21) "Spoken and Gesture Counting"; (22) "Number-Superstitions"; (23) "East African Time"; and (24) "Wealth Means Cattle--And Other Livestock." Section 8: Past and Future, (25) "Pure Mathematics in Africa." Maps, diagrams, and illustrations are included in the text. The document concludes with an appendix containing chapter references and notes, biographical notes, and a bibliography. Includes an index. (MM)

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